

2006 RESEARCH PROBLEM STATEMENT

Problem Title:

Quality and Safety During Nighttime Construction Activities

No.: 06.01-2

Submitted By:

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1. Briefly describe the problem to be addressed:

Over the past years UDOT has looked to do more and more road construction during the night to inconvenience the traveling public as little as possible. While this trend will likely continue, what are the implications to quality, productivity, worker safety, and public safety?

Develop a set of guidelines for the Department – include a checklist of when it is or is not appropriate to use night work for specific activities. Identify ways to incorporate checklist items into the design process (scoping, planning, preconstruction, etc.)

Look at more of the construction activities and determine the actual constructability issues (tack coat visibility, saw cutting of concrete, limitations of operations affects, lighting, etc.) Consider outlining guidelines for specific types of construction projects.

Strategic Goal: ☐ Preservation ☒ Operation ☐ Capacity ☒ Safety (Check all that apply)

2. List the research objective(s) to be accomplished:

1. Literature Search: State of the Art – What are other states doing?
2. Identify the impacts on quality, productivity, worker safety and public safety.
3. Identify effective performance measures.

3. List the major tasks required to accomplish the research objective(s):

Estimated person-hours

1. Literature Search

Hold a TAC meeting following literature search where findings are summarized.

2. Prepare draft document for review.

Include recommendations for policy, specifications (list requirements for Contractor), summary of national findings related to quality, productivity, worker safety, public safety, construction costs, user costs, etc.

Outline of a checklist that ties activities to the design process.

Provide guidelines indicating how to approach nighttime construction activities.

3. Solicit input/comments from TAC.

4. Prepare final document.

4. Outline the proposed schedule (when do you need this done, and how we will get there):

Start date: July 1, 2006

Literature Search Completed by: August 30, 2006

Draft Document Outlined by: October 1, 2006

Revisions/Comments: November 1, 2006

Final Document: January 15, 2007

Library Sessions by February 30, 2007

5. Indicate type of research and / or development project this is:

Large: ☐ Research Project ☐ Development Project
Small: ☒ Research Evaluation ☐ Experimental Feature ☐ New Product Evaluation ☐ Tech Transfer Initiative :
☐ Other _____

6. What type of entity is best suited to perform this project (University, Consultant, UDOT Staff, Other Agency, Other)?

UDOT In House Study

7. What deliverable(s) would you like to receive at the end of the project? (e.g. useable technical product, design method, technique, training, workshops, report, manual of practice, policy, procedure, specification, standard, software, hardware, equipment, training tool, etc.)

Technique, training, report, manual of practice

8. Describe how this project will be implemented at UDOT.

It will impact future decisions to allow or modify construction work during nighttime hours with respect to safety and quality issues.

9. Describe how UDOT will benefit from the implementation of this project, and who the beneficiaries will be.

UDOT will benefit from the implementation of this project through better decision making relating to nighttime construction activities.

10. Describe the expected risks, obstacles, and strategies to overcome these.

11. List the key UDOT Champion of this project (UDOT employee who will help Research Division steer and lead this project, and will spearhead the implementation of the results):

Rob Wight

12. Estimate the cost of this research study including implementation effort (use person-hours from No. 3): In House

13. List other champions (UDOT and non-UDOT) who are interested in and willing to participate in the Technical Advisory Committee for this study:

Name	Organization/Division/Region	Phone
A) REs,		
B) Preconstruction		
C) Local Govts	Consider outlining an agreement that would be formed on a project by project basis with the cities.	
D) Safety		
E) OSHA (coordinate with)		
F)		
G)		

14. Identify other Utah agencies, regional or national agencies, or other groups that may have an interest in supporting this study: